REMARKS

The present invention relates to a method for manufacturing bleached mechanical and chemithermomechanical pulp.

In the Office Action of February 1, 2005, it is, first of all, appreciated that the Examiner has withdrawn the previous rejection Under 35 U.S.C. § 112, second paragraph. The sole remaining rejection of claims 1-13 is the rejection Under 35 U.S.C. § 103(a) based on the asserted admitted prior art (Jepson claim) in view of Madison et al and Grimsley et al and West.

In the present Amendment, claim 1 has been amended to improve the clarity of the claim by explicitly reciting that the lignocellulosic material is the starting material in the case of the present invention. This is clear from the description and examples in the present specification. With respect to the Examiner's comments at pages 2 and 3 of the Office Action with respect to the previously noted distinctions of the present invention, Applicants provide further comments below to further explain to the Examiner the unobviousness of the present invention with respect to the points considered *vis-à-vis* the asserted combination of admitted prior art in view of the three further references cited by the Examiner.

The Examiner has stated the following in the two paragraphs at page 3 in the Office Action:

> *"The argument that MADISON et al starts with logs which are ground rather than refined is not convincing. The instant*

> *process calls for passing a lignocellulosic material through a chemical treatment system and then through two refiners. MADISON et al passes lignocellulosic material (coarse pulp) to a chemical treatment (NaOH in the "PULP MIXR" and "RETENTION STORAGE") and then through two refiners ("PRIMARY REFINER" and "SECONDARY REFINER") which convert the material to a pulp suspension and after the second refiner adds dithionite (sodium hydrosulfite) to the twice refined pulp (MADISON et al column 2, lines 24-26). This is substantially the same process claimed.*
>
> *The argument that instant process uses chips is not convincing as the claims call for "lignocellulosic material preferably chips". The claims are not limited to "chips". Applicant further argues that the only "fiber-freelayed technique in the method of the present invention is refining" is not convincing as the claims are open and do not exclude any of the additional steps used by MADISON et al, besides the steps of the basic process are taught by the "ADMITTED PRIOR ART". The instant lignocellulosic material, like the lignocellulosic material of MADISON et al would have to be mechanically ground or refined to produce the instant "chips" from the source of wood, e.g. usually trees".*
> *(the underlining above added for emphasis)*

A first inaccuracy in the statements noted above is the following:

> *"logs which are ground rather than refined"*

The starting material in the pulp manufacturing process of Madison is wood in the form of logs, and these logs are, in fact, grinded; they are, in fact, not refined.

The above-quoted statements next refer to "passing a lignocellulosic material though a chemical treatment system and then through two refiners". This is not inaccurate, but from a

technical point of view Applicants note that the present invention also covers a non-chemical treatment, i.e. the TMP-process, and furthermore not a simple alkaline (NaOH) treatment, but a CTMP-process. These points are noted as technical truths to facilitate the Examiner's overall understanding.

The following statement from above, however, presents a second inaccuracy:

> *"then through two refiners which convert the material to a pulp suspension"*

The material is absolutely not converted to a pulp suspension in the two refiners. In Madison, in fact, this conversion has already taken place in the grinding stage. That is, the wood in the form of logs is converted to a pulp suspension in the grinding stage in Madison.

It is next stated that:

> *"MADISON et al passes lignocellulosic material (coarse pulp) to a chemical treatment".*

In the interest of accuracy, what occurs in Madison should have been described as:

> *"passes a pulp suspension (containing pulp in a coarse form)*
>
> *to".*

However, instead of using the technically accurate characterization "pulp suspension", the Office Action used the general characterization "lignocellulosic material" which is broader than Madison's actual teachings.

What Madison really does in the two refiners is that he treats the already formed pulp suspension so that the pulp within the pulp suspension becomes less and less coarse.

The next (second) paragraph quoted above includes the very interesting and for the whole case very important statement:

> *".... the claims call for "lignocellulosic material, preferably chips". (underlining emphasis added)*

The foregoing does not, quote main claim 1 correctly; rather, in fact, the following is recited in main claim 1:

> *"lignocellulose material, preferably wood in chip form".*

For the purposes of the present invention, it is necessary for the Examiner to understand Applicants' intended meaning of the expression "lignocellulose material". Every artisan knows and understands the huge difference between wood, for example, and a fully bleached and very bright cellulose pulp.

Applicants must, therefore, direct the Examiner's attention to the description in the present patent application to facilitate the Examiner's understanding of what Applicants mean by "lignocellulose material", which the Examiner has apparently misunderstood and therefore described inaccurately:

Page 1, lines 15

> *"Any lignocellulose material whatsoever can be used as a starting material. Examples of such materials are bamboo, straw, bagasse, kenaf and wood. Wood is the preferred starting material, and both softwoods and hardwoods can be beneficially used, either separately or in combination. The wood is usually chopped initially in the pulp manufacturing process into an indeterminate number of chips."*

Page 8. lines 1-

> *"Suitable lignocellulosic material, for instance wood in chip form, is fed through the conduit 1 to the preheater 2. The starting material, i.e. some sort of tree, is cut into suitable lengths (logs) which are then barked in a barking drum for instance and thereafter passed to a chipper in which the lengths of wood (the logs) are chipped. The chips may then be screened to obtain chips of an appropriate size, whereafter the chips are processed to form pulp. The chips may optionally be steamed and washed."*

In order to preclude any further misunderstanding and resultant misinterpretation, Applicants herein amend, before "lignocellulose" at line 2 in claim 1, to insert the recitation:

> *-- a starting material in form of --*

Then, the recitation regarding this matter is seen to be:

> *"wherein a starting material in the form of lignocellulose material, preferably wood in chip form, is caused to pass through at least one preheater or" and so on.*

Accordingly, it is respectfully submitted that the incorrect and inaccurate comparison with Madison regarding the preamble of present claim 1 should be withdrawn.

Finally, there is a third inaccuracy in the statements quoted above in the Office Action, *viz.*:

> *"The instant lignocellulosic material, like the lignocellulosic material of MADISON et al would have to be mechanically ground or refined to produce the instant "chip" from the source of wood, e.g. usually trees." (emphasis added)*

Here it appears that the Examiner states and means that the manufacturing of wood chips or chips from wood (in accordance with the present invention) is the same as mechanically grinding (references to refining are out of order in this context) wood logs to pulp (as Madison does). This is a key misunderstanding/misinterpretation that must be corrected. The process of transforming wood logs to wood in millions of small pieces, named chips, is named chipping, and that has nothing to do with grinding, which is a process for transforming or converting wood logs to a pulp, or more precisely to a pulp suspension.

To further facilitate the Examiner's accurate understanding in this regard, the Examiner's attention is directed to page 8 of the present patent application, wherein at lines 2-4 it is stated:

> *"The starting material, i.e. some sort of tree, is cut into suitable lengths (logs) which are then barked in a barking drum for instance and thereafter passed to a chipper in which the lengths of wood (the logs) are chipped." (Underlined for emphasis.)*

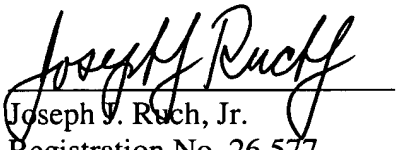
For further educational purposes, Applicants note that logs in the case of the present invention which are barked and so on have a length of about 3-4 metres, while the logs of Madison, i.e. those which are transported to the grinding process, have a length of about 1 metre.

In view of the foregoing, including the correction of the inaccurate statements in the Office Action based on the apparent misunderstanding of certain features of the present invention and terminology as it is used in the art, it is respectfully submitted that the present clarifying Amendment should be entered, and claims 1-13 allowed forthwith. Early favorable action is earnestly solicited.

If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned attorney at the local Washington, D.C. telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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